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Dated: December 12, 2003 Signature: 

(Mary Jane DiPalma)

Docket No.: CIBT-P03-068  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Dudek et al.

Application No.: Not Yet Assigned

Confirmation No.:

Filed: December 12, 2003

Art Unit: Not Yet Assigned

For: REGULATORS OF THE HEDGEHOG  
PATHWAY, COMPOSITIONS AND USES  
RELATED THERETO

Examiner: Not Yet Assigned

**INFORMATION DISCLOSURE STATEMENT (IDS)**

MS Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

A copy of each reference on PTO/SB/08 are not supplied because they were previously cited by or submitted to the Office in a prior application number 09/867311, filed May 29, 2001 and relied upon in this application for an earlier filing date under 35 U.S.C. 120.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this


Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 18-1945, under Order No. CIBT-P03-068. A duplicate copy of this paper is enclosed.

Dated: December 12, 2003

Respectfully submitted,

By 

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Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
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				First Named Inventor	Henryk Dudek
				Art Unit	N/A
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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US-4,007,268	02-08-1977	Voorhees	
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	AC	US-4,634,706	01-06-1987	Kaneko et al.	
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	BA	EU-EP0020029A1	10-12-1980			
	BB	WO-89/11487	11-30-1989			
	BC	WO-91/07087	05-30-1991			
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	BG	WO-93/09668	05-27-1992			
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	BM	WO-94/16718	08-04-1994			
	BN	WO-98/58650	12-30-1998			
	BO	WO-99/52534	10-21-1999			

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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	CA	Alcedo et al., "The drosophila smoothed gene encodes a seven-pass membrane protein, a putative receptor for the hedgehog signal," Cell 86:221-232 (1996)	
	CB	Altaba, "Restrictions to floor plate induction by hedgehog and winged-helix genes in the neural tube of frog embryos," Mol. Cell. Neurosci. 6:106-121 (1995)	
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	CD	Bellusci et al., "Involvement of Sonic hedgehog in mouse embryonic lung growth and morphogenesis," Development 124:53 (1997)	
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	CK	Chen et al., "Dual roles for patched in sequestering and transducing hedgehog," Cell 87:553-563 (1996)	
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	CQ	Fan et al., "Patterning of mammalian somites by surface ectoderm and notochord: evidence for sclerotome induction by hedgehog homolog," Cell 79:1175-1189 (1994)	
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	CS	Fietz et al., "Secretion of the amino-terminal fragment of the hedgehog protein is necessary and sufficient for hedgehog signalling in drosophila," Curr. Biol. 5:643-651 (1995)	
	CT	Forbes et al., "Hedgehog is required for the proliferation and specification of ovarian somatic cells prior to egg chamber formation in Drosophila," Development 122:1125-1135 (1996)	
	CU	Francis et al., "Bone morphogenetic proteins and a signalling pathway that controls patterning in the developing chick limb," Development 120:209-218 (1994)	
	CV	Freed et al., "Neocartilage formation in vitro and in vivo using cells cultured on synthetic biodegradable polymers," J. Biomed Mater Res. 27:11-23 (1993)	
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CY		Gailani et al., "The role of the human homologue of Drosophila patched in sporadic basal cell carcinomas," Nature Genetics 14:78-81 (1996)	
CZ		Goodrich et al., "Altered neural cell fates in medulloblastoma in mouse patched mutants," Science 277:1109-1113 (1997)	
CA1		Goodrich et al., "Conservation of the hedgehog/patched signaling pathway from flies to mice: induction of a mouse patched gene by hedgehog," Genes Dev. 10:301-312 (1996)	
CB1		Grande et al., "The repair of experimentally produced defects in rabbit articular cartilage by autologous chondrocyte transplantation," J. Orthopaedic Res. 7:208-218 (1989)	
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CE1		Hidalgo et al., "Cell patterning in the Drosophila segment: spatial regulation of the segment polarity gene patched," Development 110:291-301 (1990)	
CF1		Hooper et al., "The drosophila patched gene encodes a putative membrane protein required for segmental patterning," Cell 59:751-764 (1989)	
CG1		Hui et al., "Expression of three mouse homologs of the Drosophila segment polarity gene cubitus interruptus, Gli, Gli-2, and Gli-3, in ectoderm- and mesoderm-derived tissues suggests multiple roles during postimplantation development," Dev Biol. 162:402-413 (1994)	
CH1		Jensen et al., "Expression of sonic hedgehog and its putative role as a precursor cell mitogen in the developing mouse retina," Development 124:363 (1997)	
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CJ1		Jessel, "Diffusible factors in vertebrate embryonic induction," Cell 68:257-270 (1992)	
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CV1		Marigo et al., "Biochemical evidence that patched is the hedgehog receptor," Nature 384:177-179 (1996)	

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CW1	Marigo et al., "Conservation in hedgehog signaling: induction of a chicken patched homolog by sonic hedgehog in the developing limb," Development 122:1225-1233 (1996)	
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CY1	Marti et al., "Requirement of 19K from the sonic hedgehog for induction of distinct ventral cell types in CNS explants," Nature 375:322-325 (1995)	
CZ1	Marti et al., "Distribution of sonic hedgehog peptides in the developing chick and mouse embryo," Development 121:2537-2547 (1995)	
CA2	Mitra-Kirtley et al., "Determination of the nitrogen chemical structures using XANES spectroscopy," JACS 115:252-258 (1993)	
CB2	Munsterberg et al., "Combinatorial signaling by sonic hedgehog and Wnt family members induces myogenic bHLH gene expression in the somite," Genes Dev. 9:2911-2922 (1995)	
CC2	Nakano et al., "A protein with several possible membrane-spanning domains encoded by drosophila segment polarity gene patched," Nature 341:508-513 (1989)	
CD2	Niswander et al., "A positive feedback loop coordinates growth and patterning in the vertebrate limb," Nature 371:609-612 (1994)	
CE2	Nusse, "Patching up hedgehog," Nature 384:119-120 (1996)	
CF2	Omnell et al., "Expression of veratrum alkaloid teratogenicity in the mouse," Teratology 42:105-119 (1990)	
CG2	Orenic et al., "Cloning and characterization of the segment polarity gene cubitus interruptus dominant of drosophila," Genes and Development 4:1053-1067 (1990)	
CH2	Oro et al., "Basal cell carcinomas in mice overexpressing sonic hedgehog," Science 276:817-821 (1997)	
CI2	Perrimon, "Hedgehog and beyond," Cell 80:517-520 (1995)	
CJ2	Perrimon, "Serpentine proteins slither into the wingless and hedgehog fields," Cell 86:513-516 (1996)	
CK2	Placzek et al., "Induction of floor plate differentiation by contract-dependent, homeogenetic signals," Development 117:205-218 (1993)	
CL2	Porter et al., "Hedgehog patterning activity: role of a lipophilic modification mediated by the carboxy-terminal autoprocessing domain," Cell 86:21-34 (1996)	
CM2	Porter et al., "The product of hedgehog autoproteolytic cleavage active in local and long-range signalling," Nature 374:363-366 (1995)	
CN2	Riddle et al., "Sonic hedgehog mediates the polarizing activity of the ZPA," Cell 75:1401-1416 (1993)	
CO2	Roberts et al., "Sonic hedgehog is an endodermal signal inducing Bmp-4 and Hox genes during induction and regionalization of the chick hindgut," Development 121:3163-3174 (1995)	
CP2	Roelink et al., "Floor plate and motor neuron induction by different concentrations of the amino-terminal cleavage product of sonic hedgehog autoproteolysis," Cell 81:445-455 (1995)	
CQ2	Roelink et al., "Floor plate and motor neuron induction by vhh-1, a vertebrate homolog of hedgehog expressed by the notochord," Cell 76:761-775 (1994)	
CR2	Stone et al., "The tumour-suppressor gene patched encodes a candidate receptor for sonic hedgehog," Nature 384:129-134 (1996)	
CS2	Stone et al., "Future directions," Clin Orthop Relat Res 252:129 (1990)	
CT2	Tabata et al., "The drosophila hedgehog gene is expressed specifically in posterior compartment cells and is a target of engrailed regulation," Genes Dev. 6:2635-2645 (1992)	
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CW2	Vacanti et al., "Synthetic polymers seeded with chondrocytes provide a template for new cartilage formation," Plast Reconstr Surg 88:753 (1991)	

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	CX2	von Schroeder et al., "The use of polyactic acid matrix and periosteal grafts for the reconstruction of rabbit knee articular defects," J Biomed Mater Res 25:329 (1991)	
	CY2	Wakitani et al., "Repair of rabbit articular surfaces with allograft chondrocytes embedded in collagen cell," J. Bone Jt Surg 71B:74 (1989)	
	CZ2	Wang et al., "Induction of dopaminergic neuron phenotype in the midbrain by sonic hedgehog protein," Nature Med. 1:1184-1188 (1995)	
	CA3	Weinberg et al., "Developmental regulation of zebrafish MyoD in wild-type, no tail and spadetail embryos," Development 122:271-280 (1996)	
	CB3	Xie et al., "Mutations of the patched gene in several types of sporadic extracutaneous tumors," Cancer Res 57:2369-2372 (1997)	
	CC3	Xie et al., "Physically mapping the 5 Mb D9S196-D9S180 interval harboring the basal cell nevus syndrome gene and localization of six genes in this region," Genes Chromosomes Cancer 18:305-309 (1997)	
	CD3	Yamada et al., "Control of cell pattern in the neural tube: motor neuron induction by diffusible factors from notochord and floor plate," Cell 73:673-686 (1993)	
	CE3	Murone et al., Sonic hedgehog signaling by the patched-smoothed receptor complex," Current Biology 9:76-84 (1999)	
	CF3	Epstein et al., Antagonizing cAMP-dependent protein kinase A in the dorsal CNS activates a conserved sonic hedgehog signaling pathway," Development 122:2885-2894 (1996)	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

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